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No. 99-8508

IN THE

Supreme Court of the United States

DANNY LEE KYLLO,

Petitioner,

v.

UNITED STATES OF AMERICA,

Respondent.

On Writ of Certiorari to the United States Court of Appeals for the Ninth Circuit

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BRIEF *AMICUS CURIAE* OF THE LIBERTY PROJECT IN SUPPORT OF PETITIONER

JULIE M. CARPENTER *
ROBIN M. MERIWEATHER
JENNER & BLOCK
601 Thirteenth Street, NW
Washington, DC 20005
(202) 639-6000

Counsel for *Amicus Curiae* The Liberty Project

* Counsel of Record

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INTEREST OF *AMICUS CURIAE*[1]

Thomas Jefferson warned, "the natural progress of things is for liberty to yield and government to gain ground." Mindful of this trend, The Liberty Project was founded in 1997 to promote individual liberty against encroachment by all levels of government. This not-for-profit organization advocates vigilance over regulation of all kinds, especially restrictions of individual civil liberties that threaten the reservation of power to the citizenry that underlies our constitutional system. The Liberty Project is also particularly involved in defending the right to privacy, one of the most profound individual liberties and a critical aspect of every American's right (and responsibility) to function as an autonomous and independent individual.

This case implicates the fundamental right of each citizen to privacy in his own home. Technology that allows police to gather information about activities in the home from a position outside the home cannot be used to make an end run around the privacy interest protected by the Fourth Amendment. This is particularly so when use of the technology typically violates not only a police suspect's privacy interests, but those of his neighbors. Because of The Liberty Project's strong interest in privacy and in protection of citizens from government overreaching, it is well situated to provide this Court with additional insight into the issues presented in this case.

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[1]The parties have consented to the submission of this brief. Their letters of consent have been filed with the Clerk of this Court. Pursuant to Supreme Court Rule 37.6, none of the parties authored this brief in whole or in part and no one other than *amicus* or its counsel contributed money or services to the preparation or submission of this brief.

SUMMARY OF ARGUMENT

The Fourth Amendment protects "[t]he right of the people to be secure in their persons, houses, papers, and effects against unreasonable searches and seizures." U.S. Const. amend. IV. The rights protected by the Fourth Amendment are "indispensable to the 'full enjoyment of personal security, personal liberty, and private property'; [and] they are to be regarded as of the very essence of constitutional liberty." *Johnson v. United States*, 333 U.S. 10, 17 n.8 (1948). And these rights apply with particular force in the home, where the expectation of privacy is historically and legally entitled to the highest protection. A thermal imager scan of a private home at night without a warrant, which gathers information about activities and objects generating heat inside the home, violates those rights.

1. The special status of the home as a place constitutionally free from warrantless government intrusion has deep historical roots. These roots, and the long line of precedent applying the special protection accorded the privacy interests in the home, preclude this Court and lower courts from relying on non-home searches to justify thermal scanning of a home.

2. The thermal scanning and imaging was expected to and did provide police with information about activities and objects inside the home. The fact that the information came from heat emissions generated inside the home that then passed to the exterior walls of the home does not diminish the homeowner's privacy interest in that information, which was not visible or meaningful to the naked eye of the public or the police.

3. A homeowner's subjective expectation of privacy in activities and objects located in his basement, away from any windows and out of sight of even casual visitors inside the home, is one that society is prepared to and indeed does recognize as reasonable.

ARGUMENT

I. INVESTIGATORY PRACTICES THAT REVEAL INFORMATION ABOUT THE INTERIOR OF THE HOME CANNOT BE JUSTIFIED BY OTHER PRACTICES THAT DO NOT INVOLVE THE HOME.

A. The Home Is Entitled to Special Protection from Government Intrusion.

Nearly four hundred years ago, an English court recognized that "the house of every one is to him as his castle and fortress, as well for his defence against injury and violence, as for his repose." *Semayne's Case*, 77 Eng. Rep. 194, 5 Co. Rep. 91a, 91b, 195 (K.B.) (quoted in *Wilson v. Layne*, 526 U.S. 603, 609 (1999)); *see also* William Blackstone, 4 *Commentaries on the Laws of England* 223 (1765-1769) ("[T]he law of England has so particular and tender a regard to the immunity of a man's house, that it stiles it his castle. . . . ."); *Payton v. New York*, 445 U.S. 573, 597 & n.45 (1980) (describing "the freedom of one's house" as a "vital element[] of English liberty" that influenced the development of the Fourth Amendment); *see also* William J. Stuntz, *The Substantive Origins of Criminal Procedure*, 105 Yale L.J. 393, 396-97 (1995).

The special protections afforded the home spring from ancient roots. Article 21 of the Code of Hammurabi provided: "If any one break a hole into a house (break in to steal), he shall be put to death before that hole and be buried." Hammurabi's Code of Laws (L.W. King, transl.) *available at* http://www.yale.edu/lawweb/avalon/hamcode.htm. Biblical law forbade a creditor to enter a debtor's house to get security for his pledge. Deuteronomy 24:10. And Cicero expressed the Roman view of the sanctity of the home when he stated: "What is more inviolable, what better defended by religion than the house of a citizen. . . . This place of refuge is so sacred to all men, that to be dragged from thence is unlawful." Nelson B. Lasson, *The History and Development of the Fourth Amendment to the United States Constitution* 15 (1937). Indeed, in Roman times, to enter a house to search for evidence of a theft, a complainant was required to identify with particularity the goods he was seeking. Only then could the complainant proceed with *lance et licio*, a ceremony in which he would appear at the house clad only in an apron and bearing a platter in his hand to conduct the search in the presence of witnesses. (The apron was to prevent the searcher from concealing goods in his garments; the platter was presumably a symbol of the intended seizure and carrying away of goods.) *Id.* at 17-18. And in Anglo-Saxon England, the offense of *hamsocn* – forcible entry into a dwelling – justified the homeowner in killing the perpetrator in the act without the payment of compensation usually required. *Id.* at 18-19.

This long and deeply felt conviction that the home was a place of unique protection came of age as a legal principle limiting government in British law. In 1470, it was held that although an owner of goods could lawfully enter the land of the thief who had stolen them, he could not break into the thief's house. *Id.* at 34, n.78 (citing *Yearbooks*, 9 Edw. IV, Mich. Pl.

10). A constable who broke into a home even after witnessing a felony by the person therein did so at his peril. *Id.* (citing Sir Matthew Hale, *History of the Pleas of the Crown* (Philadelphia, 1847)). And the ancient Jewish rule that a debtor's home was his asylum which could not be entered continued with the force of law. *Id.* (citing James Paterson, Commentaries on the Liberty of the Subject (London, 1877) II, 231 ff.).

Although the excesses of the Court of Star Chamber in the sixteenth and seventeenth centuries led to widespread use of general warrants to search private homes at any time for virtually anything, those very excesses led (eventually) to the recognition that neither excise taxes nor the gathering of evidence of criminal wrongdoing could justify arbitrary and indiscriminate searches of a citizen's home. Indeed, at the time of the Restoration of Charles II, Parliament required by act that a search of a house required a special warrant under oath, and provided for full damages and costs against the informer if the information proved to be false. *Id.* at 37 n.89 (citing 12 Char. II, ch. 19). And in urging further protections of private homes from excise agents, Sir William Pitt declared:

> The poorest man may, in his cottage, bid defiance to all the forces of the Crown. It may be frail, its roof may shake; the wind may blow through it; the storm may enter; the rain may enter; but the King of England may not enter; all his forces dare not cross the threshold of the ruined tenement.

Miller v. United States, 357 U.S. 301, 307 (1958) (quoting the Oxford Dictionary of Quotations).

Public outrage over warrantless searches of colonists' homes by officials looking for smuggled goods played a

significant, perhaps even starring, role in spurring the American colonists to revolution in the eighteenth century. There is ample evidence that the Framers of the Constitution and the Bill of Rights were keenly aware of contemporary English cases on the issue, such as *Entick v. Carrington*, 95 Eng. Rep. 807 (K.B. 1765), in which the English court observed:

> Our law holds the property of every man so sacred that no man can set foot upon his neighbor's close without his leave; if he does he is a trespasser though he does no damage at all. . . . This is the first instance of an attempt to prove a modern practice of a private office to make and execute warrants to enter a man's house, search for and take away all his books and papers in the first instance, to be law, which is not to be found in our books.

Entick (excerpts reprinted at The Founders' Constitution, Vol. V, 233-35 (1987); *see also Boyd v. United States*, 116 U.S. 616, 626-27 (1886) (discussing Framers' familiarity with *Entick*); *Huckle v. Money*, 95 Eng. Rep. 768 (C.P. 1763) (excerpts reprinted at The Founders' Constitution at 230) ("To enter a house by virtue of a nameless warrant, in order to procure evidence, is worse than the Spanish Inquisition; a law under which no Englishman would wish to live an hour; it was a most daring public attack made upon the liberty of the subject.").

Moreover, the public debates and court arguments over the general warrants and writs of assistance exercised by the king's customs agents were vigorously discussed in the colonies. John Adams credited James Otis' argument in Boston in 1761 against the writs of assistance with "'breath[ing] into this nation the breath of life. . . . Then and there was the first scene of opposition to the arbitrary claims of Great Britain. Then and

there the child Independence was born.'" Lasson at 59 (quoting Works of John Adams, Vol X. 247-48).[2]

The issue of searches of private homes was front and center in the petition which the Continental Congress addressed to the King of England in 1774, which stated: "'The officers of the custom are empowered to break open and enter houses, without the authority of any civil magistrate, founded on legal information.'" Lasson at 75 (citation omitted). The anger over such intrusions, in addition to another violation of the home – the hated practice of the British government quartering the British soldiers in the private homes of the colonists – led directly to the protections of the home adopted in the Third and Fourth Amendments to the United States Constitution. Thus, the Framers incorporated the ancient view that the home was a unique place in which persons were free from governmental intrusion – even governmental intrusion that involved discovering wrongdoing – unless the appropriate requirements were met.

Consistent with the Framers' intent and the text of the Fourth Amendment, this Court has repeatedly recognized that although the protections of the Fourth Amendment extend to a variety of settings, "[i]n none is the zone of privacy more clearly defined than when bounded by the unambiguous physical dimensions of an individual's home." *Payton*, 445 U.S. at 589; *see Wilson*, 526 U.S. at 612 (describing the "right of residential privacy" as the "core of the Fourth Amendment");

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[2]Indeed, as an example of the outrageous abuse of the searches, Otis recounted the anecdote of a judge who punished a customs official for a minor offense. The customs official responded by ordering the judge to open his house for inspection for uncustomed goods, which the judge was forced to do. *Id.*

Oliver v. United States, 466 U.S. 170, 178 (1984) (noting the "overriding respect for the sanctity of the home") (quotations and citation omitted); *Silverman v. United States*, 365 U.S. 505, 511 (1961) ("At the very core stands the right of a man to retreat into his own home and there be free from unreasonable governmental intrusion"); *see also Dorman v. United States*, 435 F.2d 385, 389 (D.C. Cir. 1970) ("Freedom from intrusion into the home or dwelling is the archetype of the privacy protection secured by the Fourth Amendment.").

This constitutional right of privacy in the home does not depend on notions of trespass. *See Katz v. United States*, 389 U.S. 347, 353 (1967) (the existence of a violation "cannot turn upon the presence or absence of a physical intrusion into any given enclosure"); *United States v. United States Dist. Ct.*, 407 U.S. 297, 313 (1972) (government interception of telephone conversations as violative of right of privacy as physical entry into the home). As this Court recognized over a hundred years ago: "It is not the breaking of his doors, and the rummaging of his drawers, that constitutes the essence of the offense; but it is the invasion of his indefeasible right of personal security, personal liberty, and private property. . . which underlies and constitutes the essence of" a Fourth Amendment violation. *Boyd*, 116 U.S. at 630.

Indeed, the Fourth Amendment protects not only the space defined by the four walls of the home, it also protects the area immediately *outside* the home – the curtilage. At common law and in this Court, the curtilage fully shared the protections afforded the home itself. Indeed, this Court has distinguished the curtilage concept from "open fields" at some remove from the home in which an individual has no heightened expectation of privacy. *Oliver*, 466 U.S. at 180-82; *United States v. Dunn*, 480 U.S. 294, 300 (1987); *California v. Ciraolo*, 476 U.S. 207

(1986). Thus, the proximity of garages, driveways, cottages, and backyards to the home means they are part of the curtilage and therefore part of the home for Fourth Amendment purposes. *See, e.g., United States v. Reilly*, 76 F.3d 1271, 1277-79 (2d Cir. 1996); *Daughenbaugh v. City of Tiffin*, 150 F.3d 594 (6th Cir. 1998).

B. The Unique Status of the Home Precludes Governmental Intrusion That Might Be Justified Elsewhere.

This Court has squarely recognized that Fourth Amendment analysis in cases involving "open fields" or public spaces does not control cases involving a home, even if the facts in the two cases are otherwise identical. *See Dow Chem. Co. v. United States*, 476 U.S. 227, 237 n.4 (1986). The significance of the protection afforded the home is highlighted by comparing this Court's two electronic surveillance cases of *United States v. Knotts*, 460 U.S. 276 (1983) and *United States v. Karo*, 468 U.S. 705 (1984).

In *Knotts*, the defendant challenged the government's use of a beeper to monitor the transportation of a can of chemicals that the police suspected would be used to manufacture drugs. The police used the beeper and visual surveillance to track the movement of the chemicals in a suspect's car, and eventually determined that the signal, once stationary, came from an area near Knotts' cabin. The officers secured a warrant and searched the cabin, where they found equipment and chemicals capable of producing fourteen pounds of pure amphetamine. The Court found no Fourth Amendment violation since the movements of the automobile with the can across public roads to the "open fields" outside Knotts' cabin could have been observed by the naked eye. *Knotts*, 460 U.S. at 281-82.

The facts in *Karo* were strikingly similar to those in *Knotts*, except that the beeper was used in a home. There, police placed a beeper inside a container of ether a suspected drug manufacturer had ordered. The police then monitored the movement of the ether to and inside its ultimate destination – a home. Focusing precisely on that distinction, the *Karo* Court squarely addressed "whether the monitoring of a beeper in a private residence, a location not open to visual surveillance, violates the Fourth Amendment." *Karo*, 468 U.S. at 714. The Court declared:

> At the risk of belaboring the obvious, private residences are places in which the individual normally expects privacy free of governmental intrusion not authorized by a warrant, and that expectation is plainly one that society is prepared to recognize as justifiable. Our cases have not deviated from this basic Fourth Amendment principle.

Id. The Court held, with little discussion, that just as a DEA agent could not have surreptitiously entered the residence without a warrant to confirm the presence of the ether, neither could a surreptitious DEA electronic device be used without a warrant "to obtain information that [DEA] could not have obtained by observation from outside the curtilage of the house." *Id.* at 715. Although the Court noted that the electronic monitoring was less than a full-scale search, it emphasized that the monitoring allowed the Government to obtain information that it was "extremely interested in knowing and that it could not have otherwise obtained without a warrant." *Id.* Because the monitoring of the presence of a container inside a home was warrantless, the Court held it violated the Fourth Amendment.

Karo teaches that warrantless electronic surveillance *of activities or objects inside the home* that would not otherwise be detectible without a warrant constitutes a search under the Fourth Amendment even though the same surveillance might not be a search away from the home. Because the home is especially protected, analogies of non-home searches to thermal scanning can provide no support for the notion that thermal scanning is not a search. The Ninth Circuit and other courts who have analogized the thermal scan to dog sniffs, aerial surveillance of open fields, or beeper surveillance in public areas have erred. *See, e.g., United States v. Kyllo*, 190 F.3d 1041, 1046 (9th Cir. 1999) (canine sniff); *United States v. Myers*, 46 F.3d 668, 670 (7th Cir. 1995) (canine sniff); *United States v. Ford*, 34 F.3d 992, 996 (11th Cir. 1994) (canine sniff); *United States v. Penny-Feeney*, 773 F. Supp. 220, 226 (D. Haw. 1991), *aff'd on other grounds sub nom United States v. Feeney*, 984 F.2d 1053 (9th Cir. 1993) (canine sniff, beeper and aerial surveillance); *United States v. Deaner*, No. 1:CR-92-0090-01, 1992 WL 209966, at *3-*4 (M.D. Pa. July 27, 1992), *aff'd on other grounds*, 1 F.3d 192 (3d Cir. 1993) (canine sniff).

II. SCANNING A PRIVATE RESIDENCE WITH A THERMAL IMAGING DEVICE IS A SEARCH.

A. Thermal Imagers Were Designed To and Do Reveal Activities and Objects That Would Otherwise Be Hidden Behind Walls.

As discussed at length in appellee's brief, and as the laws of thermodynamics describe, all objects with temperatures above absolute zero emit distinctive thermal infrared radiation, commonly known as heat. Because hotter objects generate more radiation at higher frequencies, each object emits a

distinctive "heat signature." Thermal imaging systems are used to capture these heat signatures and translate them into usable data.[3]

Although thermal imaging devices can scan objects directly, their primary purpose is to locate objects that cannot otherwise be seen. Thus, they can scan objects and activities behind walls and closed doors. The heat radiated by any object will dissipate; a house's exterior walls therefore will radiate heat generated by objects or activities inside the house. But the effect is not cumulative: the heat source and the manifestation of that heat on the exterior wall are directly linked, something like a shadow. Thus, thermal scanners register the heat signatures of activities or objects *inside* a building by recording heat differentials across the building's *exterior* surface. These heat differentials — which may be as slight as 0.2 degrees centigrade — are not discernible by unenhanced human vision. *Washington v. Young*, 867 P.2d 593, 598 (Wash. 1994); *Hot Spots*, 63 U. Chi. L. Rev. at 659.

Moreover, although some imagers, such as the one used in this case, depict the heat differentials caused by different objects as hot spots on a wall, other scanners can generate more precise renderings of the objects or activities in the interior of the home. Indeed, even five years ago, thermal imagers could discern human forms through curtained windows, *see Young*, 867 P.2d at 595, and structural elements of homes such as rafters and divider walls. *See United States v. Olson*, 21 F.3d

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[3]Susan Moore, Note, *Does Heat Emanate Beyond the Threshold?: Home Infrared Emissions, Remote Sensing & The Fourth Amendment Threshold*, 70 Chi.-Kent L. Rev. 803, 809-10 (1994) ("*Beyond the Threshold*"); Michael L. Huskins, Comments, *Marijuana Hot Spots: Infrared Imaging & The Fourth Amendment*, 63 U. Chi. L. Rev. 655, 658 (1996) ("*Hot Spots*").

847, 848 n.5 (8th Cir. 1994). And training literature for some imagers instructs operators in how to use imagers to determine the amount of coffee in a cup and to locate the tear ducts on a human face. *See United States v. Field*, 855 F. Supp. 1518, 1531 (W.D. Wis. 1994). With particular reference to police searches, an operator can detect whether certain rooms in a house are showing heat consistent with the presence of a visitor, and whether showers, lamps, or televisions are generating heat consistent with the residents' presence in particular rooms. *Id.* As technology improves, it seems inevitable that computer programs will be designed that use comparative data to translate the heat differentials into rough visual approximations of the objects responsible for producing them.

Because thermal scanners can give information about objects or activities not visible to the naked eye, they are, not surprisingly, used in situations where that kind of information is desired. The United States military (for whom the technology was largely developed) uses thermal imaging devices to locate and identify people. For example, when the government raided the Branch Davidian complex in Waco, such devices were used to determine the presence and location of individuals within the compound. *Beyond the Threshold*, 70 Chi.-Kent L. Rev. at 810-11 & n.38. Similar devices have been used for search-and-rescue missions and fire detection. *Penny-Feeney*, 773 F. Supp. at 223 n.4; *Field*, 855 F. Supp. at 1522. And, of course, law enforcement officials consider thermal imagers a useful means of detecting activities within the home that generate high amounts of heat, such as the use of grow lights for the indoor cultivation of marijuana.

But thermal imaging devices are not tuned to a particular type of heat-generating activity. Instead, they register all heat

differentials. Thus, they do not reveal only information about illegal activities.[4] Indeed, many, perhaps most activities that register a hot spot on an imager will be innocuous. Cultivating orchids, using household appliances, or enjoying an indoor hot tub or sauna, are examples of perfectly legitimate activities that would likely register hot spots on an imager. *See Hot Spots*, 63 U. Chi. Law Rev. at 664 & n.51 (search of an indoor orchid garden); *Field*, 855 F. Supp. at 1519 (noting that imager identified dehumidifier as a hot spot).

At bottom, the police use thermal scans of homes to generate information about activities or objects – legal and illegal – inside a home. With them, investigators can "see" infrared radiation, and, by extension, the object or person that creates it, that would otherwise be invisible to them, much like parabolic microphones allow investigators to hear sounds they could not otherwise hear. The imagers enable investigators to identify and locate the heat being produced within the home without crossing the threshold and seeing those heat sources with their own eyes. They are therefore devices that "reveal a critical fact[s] about the interior of the premises that the Government is extremely interested in knowing and that it could not have otherwise obtained without a warrant." *Karo*, 468 U.S. at 715.

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[4]The indiscriminate nature of thermal imager readings distinguishes them from canine sniffs which reveal *only* the presence of illegal contraband. *See United States v. Place*, 462 U.S. 696 (1983); *see also United States v. Jacobsen*, 466 U.S. 109 (1984).

B. Thermal Imagers Need Not Literally Intrude into the Home to Violate the Fourth Amendment.

The Ninth Circuit appeared to find it significant that the Agema 210 "passively records thermal emissions rather than sending out intrusive beams or rays," and that "the Agema 210 did not literally or figuratively penetrate the walls of the Kyllo residence to expose this [marijuana growing] activity." *Kyllo*, 190 F.3d 1041, 1044, 1046. But the Fourth Amendment plainly does not require a penetration before there is a violation. In fact, this Court has expressly repudiated its earlier views that non-physical invasions were presumptively non-intrusive and hence constitutional. *See Katz*, 389 U.S. at 352-53 (overruling *Olmstead v. United States*, 277 U.S. 438, 457 (1928)); *see also Karo*, 468 U.S. at 716 (finding use of a beeper an intrusion for Fourth Amendment purposes because it revealed information about the interior of the home). And other appellate courts have followed suit. *See, e.g., United States v. Taborda*, 635 F.2d 131, 137-39 (2d Cir. 1980) (use of a telescope to conduct surveillance of a home violated the Fourth Amendment); *United States v. Thomas*, 757 F.2d 1359, 1366-67 (2d Cir. 1985) (canine sniff outside apartment door violated Fourth Amendment); *California v. Arno*, 153 Cal. Rptr. 624, 627-28 (Cal. Ct. App. 1979) (use of binoculars to observe home violated reasonable expectation of privacy).

Moreover, to say that the imager is justifiable because it "passively" reads and records heat waves being emitted from inside a house is no different than saying that warrantless microphones are justifiable because they "passively" detect and record sound waves being emitted from inside a house. But this Court has held that even at a public phone booth – much less a private home – the government may not, without a warrant, electronically receive and/or record the sound waves

emitted by the person speaking into the telephone, even where those electronic devices did not penetrate the phone booth, but simply received the sound waves from outside the booth. *Katz*, 389 U.S. at 352.

Thus, whether a search has occurred depends not on whether the device can be labeled passive, but rather, as this Court's jurisprudence teaches, on whether it collects information in a manner that interferes with a resident's actual and reasonable expectations of privacy. *Katz*, 389 U.S. at 361.

III. KYLLO HAD A SUBJECTIVE AND REASONABLE EXPECTATION THAT THE ACTIVITES IN HIS HOME WOULD NOT BE REVEALED BY THERMAL SCANS.

A. The Fact That the Thermal Scan Revealed Information about the Interior of Kyllo's Home Established a Subjective Expectation of Privacy.

As this Court remarked so tellingly in *Karo*, it is "obvious" that "private residences are places in which the individual normally expects privacy free of governmental intrusion not authorized by a warrant, and that expectation is plainly one society is prepared to recognized as justifiable." 468 U.S. at 715. To avoid this obvious expectation, the Ninth Circuit characterized the relevant privacy expectation as a privacy expectation in the heat emissions from Kyllo's home. This unduly narrow vision of the Fourth Amendment's protections of privacy cannot stand.

If the Ninth Circuit were correct, this Court should have held in *Katz* that since Katz had no privacy interest in the sound waves that inevitably traveled away from his body under the

laws of physics, the electronic surveillance outside the phone booth which simply received those waves did not violate the Fourth Amendment. Similarly, a paper in a house could be read through a telescope without violating the privacy expectations of the homeowner in its content on the ground that the government was merely receiving light rays reflecting off the paper, and the owner could have no expectation of privacy in those light rays. Indeed, the privacy expectation of the homeowner in *Karo* would have to be characterized as the privacy interest in radiowaves emitting from the beeper in the home since the police simply received the signals transmitted from inside the home. Clearly the interest of the police in all these searches is to gather information about objects and activities in the home. Yet it is exactly those objects and activities in which a homeowner has a constitutional privacy interest. To reduce that historic interest to the limited expectation relating to how the laws of physics affect those objects and activities eviscerates the Fourth Amendment.

In light of the obviousness of most individuals' actual expectation of privacy in their homes, *Karo*, 468 U.S. at 714, there is no reason to doubt Kyllo's subjective expectation of privacy in the activities conducted in his basement. Kyllo's decision to conduct his marijuana-growing operation in an area that is not visible through windows or from the yard or adjoining streets shows his actual intent to prevent observation and thereby "preserve [his actions] as private." *Smith v. Maryland*, 442 U.S. 735, 740 (1979) (quotation and citation omitted); *see United States v. Ishmael*, 48 F.3d 850, 854 (5th Cir. 1995). Indeed his efforts were largely successful; absent the thermal scan the government would have lacked sufficient information on which to secure a warrant to search the premises.

The fact that heat could be read from the *exterior* walls of Kyllo's home does not diminish his subjective expectation of privacy. First, both interior and exterior walls are by definition "the unambiguous physical dimensions" of a home and its curtilage. *Payton*, 445 U.S. at 589. There is no sense in which the exterior walls are somehow open fields which the government may tramp upon at will. Second, because the laws of physics make clear that all objects and activities emit heat, and that this heat will escape to the surface of any structure enclosing the heat source, it would be impossible to "conceal" the heat emissions, as the Ninth Circuit suggested Kyllo should have if he had truly expected them to remain private. *See Kyllo*, 190 F.3d at 1046. Third, as discussed *supra*, the exterior manifestation of the heat cannot be separated from the activities and objects that produced it, particularly when it is those activities about which the government is seeking information, not simply the amount of heat escaping from a house. Fourth, this Court has never held that the expectation of privacy ends at the door to the home; instead, it extends to the curtilage. It would be odd indeed to conclude that an individual has a greater expectation of privacy in his backyard than in the very walls that make up the building of his home. And finally, the heat emissions were not voluntarily released by Kyllo; indeed it is unlikely he was even aware of them. Most people are not. The emissions are therefore not analogous to garbage which a person knowingly exposes to public view when he leaves it for pickup. *See California v. Greenwood*, 486 U.S. 35 (1988). Therefore the circuits that have relied on a garbage analogy to conclude that thermal scans are not a "search" have erred. *See, e.g.*, *Ford*, 34 F.3d at 997; *Myers*, 46 F.3d at 670.

B. Kyllo's Subjective Expectation of Privacy Was Also Reasonable.

The expectation that one's home will remain free from government surveillance is "plainly one that society is prepared to recognize as justifiable." *Karo*, 468 U.S. at 714. That proposition has never been seriously questioned by this Court. To hold otherwise would contradict the traditional recognition of the home's special status as an enclave into which one may retreat and be free from government intrusion.

When gauging society's view of the reasonableness of an expectation of privacy, the Court has recognized that the police may do, without warrants, what members of the public routinely do. Thus, where public air travel at 1000 feet is a sufficiently "routine part of modern life," a party cannot reasonably expect that whatever is visible at that altitude will remain private. *Florida v. Riley*, 488 U.S. 445, 453 (1989) (O'Connor, J., concurring) (discussing *Ciraolo*, 476 U.S. at 212-15); *see id.* at 464-65 (Brennan, Marshall, and Stevens, JJ., dissenting) (agreeing that the relevant question is whether the extent of *public* observation from aerial traffic made the expectation of privacy illusory); *see also Bond v. United States*, 120 S. Ct. 1462, 1466 (2000) (Breyer and Scalia, JJ., dissenting). Similarly, if thermal imaging devices were routinely used by other members of the public to examine the activities in their neighbors' houses, it might not be reasonable for an individual to expect they will not occur. Of course, such invasions of privacy are not routine, and are hardly likely to become so.

This is not a case in which "any member of the public . . . could have used his senses to detect everything that the officers observed." *Bond*, 120 S. Ct at 1466 (Breyer & Scalia, JJ.,

dissenting) (quotations and citation omitted). The radiation could only be detected with the use of sophisticated thermal imaging equipment. Therefore the heat emissions were not in "plain view" or readily accessible to the public in a manner that would defeat a reasonable expectation of privacy.[5] The case is fundamentally different from the aerial observations in *Riley* and *Ciraolo*, as well as the inspection of garbage in *Greenwood*.

The Ninth Circuit erroneously ignored all of these factors and instead focused on whether the imager revealed "intimate details" about the activities in the home. The court's conclusion that the imager does not reveal sufficiently "intimate" or sufficiently detailed information disregards the fact that the imager detects heat producing objects and activities *within the home*. That fact alone requires a conclusion that any details detected were inherently "intimate." Neither *Dow* nor the plurality opinion in *Riley* support a contrary conclusion. In holding that the 200 acres surrounding an industrial complex were open fields rather than curtilage, this Court expressly limited *Dow*: "[w]e find it important that this is *not* an area immediately adjacent to a private home, where privacy expectations are most heightened." *Dow*, 476 U.S. at 237 n.4. And to illustrate what expectations are reasonable in *open fields* the Court noted "open fields do not provide the setting for those intimate activities that the Fourth

[5]Parties asserting a Fourth Amendment privacy interest need not completely remove an object from public view. Even if it would be reasonable for the individual to expect some public exposure, the privacy interest survives so long as the particular type of surveillance would not be reasonably anticipated. *See Bond*, 120 S. Ct. at 1465-66 (Breyer & Scalia, J. dissenting) (finding squeezing of duffle bag in carry-on compartment violated the Fourth Amendment notwithstanding the likelihood that fellow passengers could see and might handle defendant's bag).

Amendment is intended to shelter from government interference or surveillance." *Id.* at 235 (quotation and citation omitted). Thus, the "intimate activities" language simply covered all activities inside a home in which a person would have an expectation of privacy. Similarly, the decisive fact in *Riley* was that the partial enclosure of the greenhouse left it open to aerial view, which "any member of the public" flying over the house could also have observed. *Riley*, 488 U.S. at 450-52. Although the *Riley* plurality also noted that the plain view did not reveal any "intimate details" connected with the home, there is no suggestion that the revelation of such details is a prerequisite to finding a Fourth Amendment violation. In fact, a majority of members of the Court either did not address the search's detection of "intimate details," or expressly rejected the significance of such an inquiry. *Id.* at 463-64. The Ninth Circuit's elevation of this phrase to the level of constitutional requirement simply bypasses the analysis required by the Court in *Riley* and *Ciraolo* as to whether the intrusion was one any member of the public might routinely have made.

It is also significant to the issue of whether society is prepared to recognize an expectation that a private home will be free from warrantless thermal scans that unlike most other surveillance devices, thermal imagers typically are used to scan other homes in the neighborhood in order to develop a baseline image against which to compare the heat signature of the objects within the home that is the target of their investigation. *See, e.g.*, *United States v. Cusumano*, 83 F.3d 1247, 1254 (10th Cir. 1986) (McKay, J. dissenting in part and concurring in part); *United States v. Robertson*, 39 F.3d 891, 893 (8th Cir. 1994); *Penny-Feeny*, 773 F. Supp. at 223-24; *Field*, 855 F. Supp. at 1523. Therefore innocent citizens may be subjected to thermal scans merely because *someone else* is suspected of

manufacturing drugs. And if a hitherto unsuspected person whose home is scanned as a baseline happens to grow orchids or be soaking in a hot tub during the scan, she may find herself suddenly under police suspicion and surveillance for growing marijuana. Especially given the increasing ability of thermal imagers to obtain more and more detail about interior objects and activities, there can be little disagreement that the baseline thermal scans of homes of uninvolved citizens violate those citizens' reasonable privacy interests. A more widespread and troubling invasion of privacy interests is difficult to imagine.

CONCLUSION

In sum, the Ninth Circuit's holding fails to protect the special expectations of privacy in the home. Thermal imaging devices violate the actual and reasonable expectation of privacy of both the targets of investigation and uninvolved neighbors whose homes are scanned to create a control group. The use of such devices without a warrant cannot pass constitutional muster because it "strip[s] the sanctuary of the home of one vital dimension of its security: 'the right to be left alone.'" *Cusumano*, 83 F.3d at 1260 (McKay, J. dissenting in part and concurring in part). For these reasons, the judgment of the Court of Appeals for the Ninth Circuit should be reversed.

Respectfully submitted,

Julie M. Carpenter*
Robin M. Meriweather
Jenner & Block
601 13th Street N.W.
Washington, D.C. 20005
(202) 639-6000
*Counsel of Record